Amendments To The Claims:

Please amend the claims as shown.

1 – 21 (canceled)

22. (new) A measuring device for locating a partial discharge on a conductor bar that has electrical external insulation in a dynamo-electrical machine, comprising:

a first sensor that is designed to detect signals that are caused by the partial discharge and propagating along the conductor bar with the first sensor being designed to emit a first partial discharge output signal that reflects a first detection time and is applied to the first sensor; and

a second sensor that is designed to detect signals that are caused by the partial discharge and propagating along the conductor bar with the second sensor being designed to emit a second partial discharge output signal that reflects a second detection time and is applied to the second sensor and the second sensor arranged at a distance from the first sensor on the conductor bar,

whereby the first partial discharge output signal and the second partial discharge output signal are supplied to an evaluation unit which is designed to locate the partial discharge on the conductor bar.

23. (new) The measuring device as claimed in claim 22, wherein the evaluation unit has a time difference module with a first time difference signal input, a second time difference signal input and a time difference output, with the first partial discharge output signal being applied to the first time difference signal input, and the second partial discharge output signal being applied to the second time difference signal input with the evaluation unit being designed such that a time difference between the arrival of the first partial discharge output signal from the first sensor at the time difference module and the arrival of the second partial discharge output signal from the second sensor at the time difference module is determined and is produced as the time difference output signal at the time difference output with the evaluation unit having a calculation module with a calculation input to which the time difference output signal is applied, and which is designed such that a partial discharge location value is calculated, which indicates the point of origin of the partial discharge on the conductor bar.

24. (new) The measuring device as claimed in claim 23, wherein the evaluation unit is designed to determine a partial discharge location value using the equation $l1 = (l + v\,Dt)/2$ where l is a distance between the first sensor and the second sensor, l1 is a distance between a point of origin of the partial discharge and a centre between the first sensor and the second sensor, v is a propagation speed of the partial discharge, and Dt is a time difference.

25. (new) The measuring device as claimed in claim 22, wherein the first sensor or the second sensor is a capacitively acting sensor.

26. (new) The measuring device as claimed in claim 22, wherein the first sensor or the second sensor is an inductively acting sensor.

27. (new) The measuring device as claimed in claim 22, wherein the first sensor or the second sensor is a direct-axis voltage sensor.

28. (new) The measuring device as claimed in claim 22, wherein the measuring device is arranged to be used in a generator.

29. (new) The measuring device as claimed in claim 22, wherein the measuring device is arranged to be used in a transformer.

30. (new) A sensor for determination of partial discharges, comprising:

an electrically conductive electrode formed as a sheet and having a front face and a rear face, with external insulation being applied to the front face; and

a plurality of coaxial cables formed as connections arranged on the electrode with a dielectric being attached to the rear face of the electrode and with a shielding electrode being attached to the dielectric using a transfer adhesive.

31. (new) The sensor as claimed in claim 30, wherein the electrode is produced from an elastic material.

32. (new) The sensor as claimed in claim 30, wherein the electrode is produced from a rolled copper adhesive film.

33. (new) The sensor as claimed in claim 30, wherein the electrode is formed from a layer assembly comprised of polyimide and rolled copper.

34. (new) The sensor as claimed in claim 30 wherein the external insulation is produced from a material high-density polyethylene or polypropylene.

35. (new) The sensor as claimed in claim 30, wherein the dielectric is formed from a closed-pore polyethylene foam that is free of fluoro-chlorohydrocarbons.

36. (new) The sensor as claimed in claim 30, wherein the shielding electrode has copper-coated glass-fiber epoxy resin.

37. (new) The sensor as claimed in claim 30, wherein the shielding electrode has a thickness between 0.30 mm and 0.60 mm.

38. (new) The sensor as claimed in claim 30, wherein the electrode is comprised of two parts.

39. (new) The sensor as claimed in claim 30, wherein the sensor is arranged to be used as an inductive sensor.

40. (new) The sensor as claimed in claim 30, wherein the sensor is arranged to be used as a capacitive sensor.

41. (new) The sensor as claimed in claim 30, wherein the sensor is arranged to be used as a direct-axis voltage sensor.

42. (new) A method for detecting and locating a partial discharge in a conductor bar which has an electrical external insulation, in a dynamo-electrical machine, comprising:

fitting a first sensor and a second sensor to the conductor bar at a distance from one another in order to detect signals that are caused by the partial discharge and propagate along the conductor bar;

supplying a first partial discharge output signal by the first sensor to an evaluation unit;

supplying a second partial discharge output signal by the second sensor to the evaluation unit; and

using the distance, a time of arrival of the first partial discharge output signal, and a time of arrival of the second partial discharge output signal by the evaluation unit to determine a point of origin of the partial discharge.